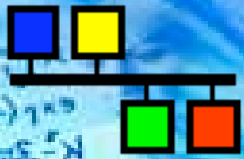




synApps Downunder

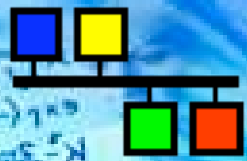
Use of synApps at the Australian Synchrotron

Wayne Lewis
Control Systems Group
Australian Synchrotron



Overview of synApps use

- Beamlines
 - X-ray absorption spectroscopy
 - Powder diffraction
 - Soft X-ray spectroscopy (possibly)
 - Infrared spectroscopy
 - Microspectroscopy (planned)
 - SAXS/WAXS (planned)
- Modules
 - motor
 - std
 - mca
 - autosave
 - Industry Pack IO
 - dxp
 - sscan
 - optics
 - quadEM



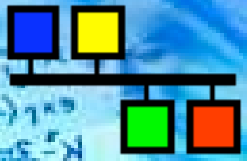
Benefits of synApps

- Reduced development time
 - Common record types already developed
 - Existing drivers for wide range of hardware
 - Ability to put together a functioning experiment in a very short space of time
 - Interface screens already developed
- Consistency
 - Maintain consistency with EPICS community
 - Access to support from developers
 - Retain ability to utilise future developments
 - Able to use existing developments that assume presence of synApps records
 - Interactions between records have been considered and allowed for
 - Creates the possibility of contributing back to the EPICS community



Motor record

- Advantages
 - Existing drivers for a range of motion controllers
 - Simple to get up and running
 - Offers consistent interface to different controllers
 - Easy to integrate with scan record
- Issues
 - Does not support synchronised motion
 - Undocumented behaviours
 - Not always a good fit to some modern controllers
 - Not always being used for modern controllers

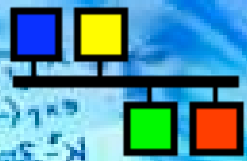


Scaler record

- Advantages
 - Good generic interface to scaling functionality
 - Existing drivers for some cards
 - New drivers simple to develop
 - Easy to integrate with scan record
 - Built-in functions such as autoscan

MCA record

- Limited experience to date, but expect significant use



Industry Pack IO

- Advantages
 - Pre-existing drivers
 - Access to break-out boards such as those at APS
- Issues
 - Interrupt handling not smoothly transferred to PCI/VME bridge

Scan record

- Advantages
 - Simple method of creating an “experiment”
 - Existing higher level applications and user interfaces available
 - Flexible configuration

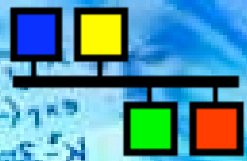


Table record

- Advantages
 - Simplifies implementation of complex geometry
- Issues
 - Assumes presence of motor record
 - Significant work in adding additional geometry

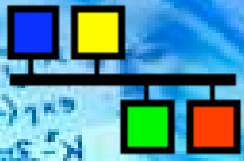
Optics module

- Advantages
 - Useful starting point for a range of optical devices



Summary

- Wide range of records directly and immediately useful in beamline control and data acquisition
- Extensive range of supported hardware
- Good templates for developing new hardware support
- Allows consistency with developments at other sites
- Allows access to support from existing sites
- Substantial development time and resource saving
- Gives a good “short-list” of hardware to choose from
- Ability to integrate with PCI/VME bridge



Questions?